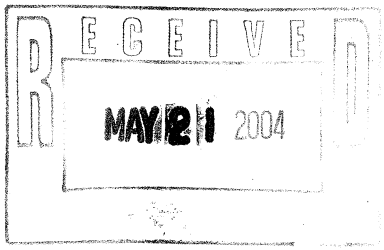
SLAG PROCESSING AREA (OU6)
REVISED BASIS OF DESIGN

CONTINENTAL STEEL SUPERFUND SITE
Kokomo, Indiana

Remedial Design
WA No. 122-RDRD-05BW / Contract No. 68-W6-0025
May 2004



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Abbreviations and Acronyms

BMP	best management practice
BOD	Basis of Design
CCI	CH2M HILL Constructors, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CQA	construction quality assurance
CSSS	Continental Steel Superfund Site
IDEM	Indiana Department of Environmental Management
LDRs	land disposal restrictions
NOI	Notice of Intent
OU	operable unit
RD/RA	Remedial Design/Remedial Action
RG	Remedial Goal
RI/FS	Remedial Investigation and Feasibility Study
ROD	Record of Decision
SOW	Statement of Work
USEPA	United States Environmental Protection Agency

Introduction

This Basis of Design (BOD) Report for the Continental Steel Superfund Site (CSSS) Slag Processing Area has been prepared for the United States Environmental Protection Agency (USEPA) by CH2M HILL under Contract 68-W6-0025 in accordance with the Statement of Work (SOW), the Record of Decision (ROD) issued in September, 1998, and the Remedial Design/Remedial Action (RD/RA) Handbook. The BOD is organized as follows:

- Introduction
- Project Delivery Strategy
- Design Approach, Assumptions, and Parameters
- Construction Schedule
- Cost Estimate
- Biddability, Constructibility, and Operability Review
- Tables
- Figures
- Appendixes

The appendixes included in this BOD Report provide supplemental information integral to the design of the selected remedy. They consist of:

- Appendix A: Volume Calculations—Volume calculations to obtain rough and final grade elevations, which include the volume of slag material to be disposed of at the Markland Avenue Quarry.
- Appendix B: Stormwater and Erosion Design Calculations—Stormwater and erosion design calculations for the final cover.
- Appendix C: M-CACES Cost Estimate—A cost estimate within an accuracy of +15 to -5 percent in M-CACES format.

The design specifications and drawings that accompany this report have been included as separate submittals. A Construction Quality Assurance Plan (CQAP) and a Draft Operations and Maintenance (O&M) Manual will be submitted at a later date. The separate design specification and drawing submittal includes all of the drawings cited in this report.

This revised BOD replaces the previous version (July 2001), which was prepared in anticipation of the Slag Processing Area being redeveloped into a future firing range/training grounds for Howard County, IN. However, the redevelopment plans are no longer feasible. This revised BOD also replaces the November 2003 version that was designed to meet higher grade elevations. Therefore, the final plans have been changed and are documented in this report and the revised specifications and drawings.

- OU3—Kokomo and Wildcat Creeks
- OU4—Markland Avenue Quarry
- OU5—Main Plant
- OU6—Slag Processing Area

Selected Remedy—Slag Processing Area (OU6)

Record of Decision

The purpose of USEPA's ROD[1] was to select the final remedial action for the CSSS. The final remedy will control the sources of contamination and prevent the further migration of contaminants. The Slag Processing Area was used by the facility to manage and process slag waste from manufacturing, and to reclaim portions of the slag that were high in iron content, for reuse in the manufacturing process. This portion of the site has several feet of waste slag covering it, as well as several large stockpiles of slag. The selected remedy for this portion of the site is to:

- Regrade the slag pile to level the site.
- Install a protective common soil cover over the contaminated solids.
- Impose deed restrictions.
- Stabilize the creek bank.

Description of ROD-Selected Remedial Action

According to the ROD, the focus of the RA for the Slag Processing Area is the elimination of direct contact risk. The proposed RA was based on the assumption that the future use of the property will be residential because of its location and the absence of property use restrictions. The primary component was a cover composed of 2 feet of a common fill and topsoil mixture across the entire Slag Processing Area. The surface of the cover would be seeded to minimize erosion. Prior to cover placement, a warning barrier (i.e., orange snow fencing) would be installed to provide a warning in the event of future excavation. Supplementary erosion control (riprap and filter fabric) would be installed along Wildcat Creek to minimize the potential for slag entering the creek.

Before cap placement, the slag piles would be spread evenly across the flat surface area of the site. Because of the large volume of the stockpiles, estimates predict that regrading will raise the surface elevation over the entire 9 acres by more than 6 feet on average, including the cap. This difference might hamper future development of the property. Deed restrictions would be necessary to minimize potential exposure to the remaining slag material under the cover and would call for special procedures during future residential construction.

[1]USEPA/IDEM. *Record of Decision: Continental Steel Corporation Superfund Site.* Kokomo, Howard County, Indiana. 1998.

Project Delivery Strategy

This section presents the project delivery strategy for the CSSS Slag Processing Area RA. The primary components of the RA are summarized below. Key project delivery strategies, relative to a specific RA component, are noted below in their respective sections.

Contracting Strategy

The contract documents for the Slag Processing Area (OU6) are being prepared based on the understanding that the State of Indiana (State) is the Owner. CH2M HILL will prepare the specifications and drawings for the State to use as part of their Request for Bid documents. The State will provide the bidding process instructions and contract terms.

Final Design

Detailed design drawings and specifications are provided for the RA components. The draft CQAP and draft O&M Manual will be submitted separately.

The final design package will consist of the following:

- Basis of Design Report, which will include a cost estimate and the biddability, operability, and constructibility reviews.
- Specifications and Drawings.
- Construction Quality Assurance Plan.
- Operations and Maintenance Manual.

Detailed design drawings and specifications have been prepared for the RA components. However, the choice of most construction methods and the selection of some of the materials to be used will be based on performance specifications. Performance specifications will allow the contractor flexibility during implementation while ensuring conformance with the specification requirements.

Remedial Action—Slag Processing Area (OU6)

Descriptions of the primary components of the RA are presented below in their expected construction sequence. The design details and construction methods for each of these components are presented in the following section.

The State of Indiana will execute the Slag Processing Area RA using the RD prepared by CH2M HILL. The primary components of the RA, as discussed in the preceding sections, are presented below in their expected construction sequence. Key project delivery strategies, relative to a specific RD component, are noted below in each respective section.

Design Approach, Assumptions, and Parameters

This section presents the technical details of the Slag Processing Area RA design. Methods of construction for each RA component are described in this section, as are performance standards that must be met during construction. As described previously, the components of the Slag Processing Area (OU6) RA consist of the following, presented in their expected project delivery sequence:

- Site preparation
- Lead-impacted soil pile
- Rough grading, including disposal of excess slag material at Markland Avenue Quarry
- Cover installation
- Line and grade survey
- Environmental monitoring and maintenance
- 5-year site reviews

Site Preparation

Description of Site Preparation

Prior to excavation, soil hauling, and rough grading activities, the Contractor will perform site preparation activities. These activities are necessary to allow heavy equipment to access all portions of the site that will be involved in this RA. Site preparation includes clearing and grubbing, establishing physical construction limits at the site, and erosion control measures for construction activities. Erosion control measures shall meet Indiana Department of Natural Resources (IDNR) requirements.

Areas Requiring Site Preparation

Erosion control measures will be necessary throughout the areas of the site where surface vegetation is disturbed and excavation will occur, especially along the south and west edges of the site. Clearing and grubbing are necessary in the vegetated portions of the site that will be graded.

Construction Details Including Design and Construction Technical Factors

In preparation for construction activities, all required erosion control measures (e.g., straw bales, silt fence, diversion channels, etc.) will be put in place prior to soil disturbance. After erosion control measures are in place, remaining site preparation activities will commence.

Rough Grading

Description of Rough Grading Activities

Rough grading includes excavating slag from the south and west creek, grading and spreading the slag and lead-impacted soil over the area designated as the slag fill area (see Drawing C-2) as necessary to meet rough grades and excavating and disposing of the excess slag materials that cover the remainder of the site at the Markland Avenue Quarry. Other areas will be graded to minimize the potential for slag entering the creek and improve the overall site topography. If needed, additional erosion control measures will be installed.

Areas Requiring Rough Grading

The entire site, including the lead-impacted soil pile, will be rough graded. Excess slag material will also be excavated and disposed of at the Markland Avenue Quarry to meet rough grades. The south and west creek banks require slag excavation to bring that material back into the center of the site so it can be spread within the slag fill area and/or disposed of with the other excavated slag materials at the Quarry. Volume calculations and a summary of the results are presented in Appendix A.

Construction Details Including Design and Construction Technical Factors

Regrading of the site will generate stormwater that will need to be managed to prevent erosion problems after redevelopment of the site is completed. A ditch running parallel to Markland Avenue will be constructed to convey water away from the site. Stormwater design calculations are presented in Appendix B.

Cover Installation

The Slag Processing Area will be covered by 2 ft of common soil cover in the slag fill area after the rough grading has been completed. This material will eliminate the potential for direct contact with existing site soils.

Treatment Details Including Design and Construction Technical Factors

After the rough grading is completed, the slag fill area will first be covered with orange safety fence to act as a warning barrier for future excavation activity. Then, a 2-ft-thick common soil cover, consisting of 18 inches of general fill and 6 inches of topsoil, will be placed over the safety fence. Additional clean fill will be imported to achieve the final grades, and 6 inches of topsoil will be placed over all remaining areas, as necessary.

The common soil cover will be protected with erosion control measures. All barren areas will be hydroseeded. The selected grass mixture will include quick-growing grasses for early stabilization and slow-growing grasses more suitable to site conditions. Barren slopes having grades of less than 33 percent will be protected by spreading mulch during seeding, while ditch lines and those slopes greater than 33 percent will be covered with erosion control mats during seeding. These erosion control mats will have a life expectancy of 18 months, which should allow vegetation to become well established. The specifications include requirements for the topsoil, seed mixture, mulch, and matting.

samples will be determined based on the Risk Integrated System of Closure Technical Guide, Table 6-2.

Samples will be analyzed for lead. Additional soil removal will be performed if the concentrations exceed the 400 mg/kg RG. If the concentrations exceed the RG, additional soil samples will be analyzed. Removal activities shall be deemed complete when the concentrations are less than the RG.

Line and Grade Survey

Description of Line and Grade Survey

At the completion of the rough grading activities, a line and grade survey will be conducted to document the work. The survey will be conducted using a 100-foot grid spacing. The record documents will include the following:

- Coordinates (i.e., northing and easting)
- Actual rough grade elevations
- Design grade elevations
- Date surveyed

Areas Requiring Line and Grade Survey

The entire site will be surveyed.

Environmental Monitoring/Maintenance

Environmental monitoring will be performed to determine the effectiveness of the remedy. The environmental monitoring details will be established in the site O&M Manual. Environmental monitoring will include an evaluation of cover and liner integrity. Site inspection requirements will be specified along with the types of corrective measures necessary when problems, such as soil erosion, are encountered.

A groundwater-monitoring program will be developed later under Contract 5—Site-wide Groundwater (OU1) to include an evaluation of the integrity of the CAMU, as well as monitoring the existing groundwater contamination and the effectiveness of the groundwater collection system. Included will be the wells to be monitored, the frequency of sampling, analytical parameters, and the type of data evaluation to be performed.

5-Year Site Reviews

Data collected under the monitoring program will be reviewed at 5-year intervals to determine whether human health and the environment continue to be protected and to determine whether additional remedial action is warranted. Alternate remedial technologies will be considered if it is determined that remedial objectives are not being achieved.

Compliance with ARARs

The CSSS ROD summarized the following federal and state ARARs in Appendix G:

- CERCLA, including the Superfund Amendments and Reauthorization Act (SARA) of 1986 and subsequent amendments
- RCRA, including the Hazardous and Solid Waste Act Amendments of 1984 (HSWA)
- The Toxic Substances Control Act (TSCA)
- The Clean Water Act (CWA) and Amendments
- The Safe Drinking Water Act (SDWA)
- The Clean Air Act (CAA)
- The Protection of Wetlands/Floodplains Management Executive Order
- The Hazardous Materials Transportation Act (HMTA)
- Indiana Water Quality Standards (Indiana Administrative Code [IAC] Title 327)
- Indiana Solid Waste Management Board Rules (IAC Title 329)
- Indiana Air Pollution Control Regulations (IAC Title 326)

The requirements of the CWA, SDWA, and the Indiana Water Quality Standards are not directly pertinent to the design of the Slag Processing Area remedy and not discussed here. They will be addressed in the subsequent design of the groundwater collection system. However, the Slag Processing Area design will be protective of groundwater and will thus meet the requirements of the CWA, SDWA, and the Indiana Water Quality Standards.

The remaining laws and regulations were discussed within the *Lagoon (OU2) Revised Design Criteria Report*, dated January 2002. Applicable laws and regulations, along with the unique aspects related to the design of the Slag Processing Area remedy, are discussed below. Table 1 presents specific requirements, the design components that address these requirements, and whether an ARAR waiver is necessary. IDEM will obtain ARAR waivers prior to the start of construction activities.

The Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA, as amended in October 1992, provides the USEPA Administrator the authority to respond to any past disposal of hazardous substances and any new uncontrolled releases of hazardous substances. Within CERCLA, a trust fund has been established for cleanup of abandoned past disposal sites and leaking underground storage facilities, as well as the authority to bring civil actions against violators. The National Contingency Plan (NCP), which guides cleanup actions at Superfund sites, was developed subject to this act.

SARA of 1986 extensively amends CERCLA. The major goals of SARA were to include more public participation, and to establish more consideration of state cleanup standards, with an emphasis on achieving remedies that permanently and significantly reduce the mobility, toxicity, or volume of wastes.

CERCLA requires the selected remedy to meet the substantive requirements of all environmental rules and regulations ARARs unless a specific waiver of the requirement is granted. Waiver of

classification of the wastes that are the source of the soil contamination at the Slag Processing Area are not known. As a result, the soil is assumed not to contain a listed waste.

To determine if a contaminated environmental medium at a CERCLA site is a characteristic waste, the medium can be tested, or professional judgment can be used to determine whether testing is necessary. Under RCRA, a waste generator is not required to test its waste, but it can use knowledge of the waste constituents to make a characteristic determination. In general, the soil contamination of the Slag Processing Area is at concentrations that will not result in classification as a characteristic waste. However, there may be some isolated areas of soil contamination that could fail the Toxicity Characteristic Leaching Procedure (TCLP) test and become classified as a hazardous waste.

CAMUs

The CAMU requirements are presented in 40 CFR 264 Subpart S. Compliance with RCRA will be achieved by establishing a CAMU for consolidation and treatment of the contaminated sludge, soil, and sediment. The CAMU rule within RCRA (40 CFR 264 Subpart S [264.552]) and IAC 329 allows movement of contaminated material without triggering the requirements for "generated" hazardous waste. In essence, it allows consolidation of contaminated sludges, soils, and sediments containing listed or characteristic waste without triggering the land disposal restriction requirements. In addition, this consolidation does not constitute creation of a unit with minimum technology requirements. This concept is needed for alternatives involving consolidation followed by containment under a cover or, otherwise, the alternative would not comply with RCRA ARARs. The proposed CAMU meets the requirements for new RCRA hazardous waste landfills.

Land Disposal Restrictions

While CAMUs were developed to encourage treatment of remediation wastes, the requirement to meet land disposal restrictions (LDRs) was specifically excluded. However, LDRs may still be considered TBCs, particularly because of the ROD inclusion of the potential need for treatment of some of the soils and sediments.

The LDR treatment standards were originally developed to apply to RCRA "as generated" hazardous waste and not environmental media, such as soils and sediments contaminated with listed hazardous waste. However, USEPA recognized that remediation wastes presented different issues. As a result, USEPA published Alternative LDR treatment standards for contaminated soil in 40 CFR 268.49. The LDR requirement asserts that treatment must achieve the greater of 90-percent reduction in total constituent concentrations or 10 times the Universal Treatment Standard (UTS) for that constituent. The UTSs are identified in 40 CFR 268.48 (Table UTS). For example, the UTS for trichloroethene (TCE) is 6 mg/kg. Treatment of soil containing 500 mg/kg TCE would only be required to achieve 60 mg/kg (10 × UTS), rather than 50 mg/kg.

The LDR contaminated soil treatment standards for the VOCs that have historically leached and contaminated groundwater at the site will be used as the target performance standards for the SVE system. This is in conformance with the intent of the LDRs for contaminated soil.

OSHA Requirements

A health and safety plan for construction activities written in accordance with the OSHA requirements listed in 20 CFR 1910 and 20 CFR 1926 will be required.

Minimizing Environmental and Public Impacts

Environmental and public health and welfare impacts will be minimized through:

- Site access control
- Soil erosion control
- Air pollution control

Site Access Control

Access control to the site during remediation is necessary to prevent exposure of trespassers to contaminated soil during excavation and stabilization activities. Access will be controlled by the fencing currently in place and by a locked gate. Some improvements to the current fencing and routine fence maintenance will be necessary for effective control of site access.

Soil Erosion Control

Manholes to storm sewers and sanitary sewers shall be protected during construction. Silt fencing or hay bales will be placed along the edge of the Slag Processing Area adjacent to Kokomo Creek following excavation until the area has been regraded and revegetated. Construction of embankments may also be needed to control erosion during remediation.

Groundwater Pollution Control

All groundwater associated with the CSSS site will be addressed later under a separate RD/RA contract.

Air Pollution Control

Earthwork during remediation will generate dust. Impacts on workers will be minimized through implementation of a worker health and safety plan specifying a photoionization detector and a dust monitor. These instruments will be used to monitor the air along the site boundaries to determine whether excessive emissions are occurring to off-site areas. Dust suppression measures shall be implemented when the concentration of dust in the air, as measured at the property boundary, is greater than 1.0 mg/m^3. Dust suppression shall be accomplished by wetting the haul roads and stockpiles with water.

Compliance with Permitting Requirements

CERCLA response actions do not need to comply with the administrative requirements, such as permitting, of applicable or relevant and appropriate environmental laws and regulations. The substantive requirements, however, must be met.

The substantive requirements for impacts to wetlands required under Section 404 of the CWA will be followed. The requirements of the CWA for minimizing impacts and restoration will be followed.

Substantive requirements for an IDEM Storm Water Discharges Associated with the Construction Activities Permit will be followed for construction at the site.

Construction Schedule

A draft construction schedule follows this page.

Cost Estimate

The estimated cost for this remedial action, based on the final design, was calculated to be approximately $1,278,529. The estimated cost in the M-CACES Gold format is attached (Appendix D).

Biddability, Constructibility, and Operability Review

CH2M HILL's affiliate, CH2M HILL Constructors, Inc. (CCI), has reviewed the draft BOD and plans and specifications with an emphasis on biddability and constructibility. Comments from the review have been incorporated into this document and the accompanying plans and specifications.

In addition, the project review team reviewed the draft BOD report and draft plans and specifications, and their comments were incorporated as appropriate.

Tables

TABLE 1
Evaluation of ARARs
Slag Processing Area Final Cover Basis of Design Report: Continental Steel Superfund Site

ARARs and TBCs	Design Components Addressing Requirement	Waivers Needed?
RCRA Subpart S CAMU, 40 CFR 264.552—ARAR		
The CAMU shall, to the extent practicable, be managed and contained so as to minimize future releases.	The CAMU landfill design criterion is to minimize future releases. Impoundment sludges will be stabilized, as needed, to meet minimum compressive strength criteria and will be disposed of in the CAMU. All wastes are placed in a double composite liner cell with leachate collection and detection systems. Leachable wastes with elevated VOC concentrations will be treated with SVE prior to placement in the CAMU. The cell will be covered with clay and synthetic liner to minimize infiltration.	No
The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility, or volume of hazardous substances that will remain in place after closure of the CAMU.	The SVE pretreatment of sludges, soils and sediments containing elevated quantities of VOCs will reduce the toxicity and mobility of the hazardous substances that will be contained in the CAMU. SVE treatment is considered appropriate for the VOC soils because: (1) it can substantially reduce the VOC mass, and (2) VOCs are the primary contaminants that are leachable as evidenced by their presence in the groundwater. Treatment of other non-VOCs is not considered appropriate because they have much lower leachability and have not leached into groundwater at the site. Solidification treatment of the sludges is included to provide sufficient bearing capacity for the sludges.	No
The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.	The CAMU has been reduced in size from that presented in the FS to an area of about 500′ by′ 1,300′. This results in a landfill height of about 90′ above current land surface. The CAMU will be placed over the lagoon area impoundments to allow use of the impoundment area (including the volume from ground surface to 10′ below ground surface), thus minimizing the CAMU size.	No
Closure of corrective action management units shall minimize the need for further maintenance.	Cover side slopes will be kept to a maximum of 33% to minimize erosion. Cover surface slopes will be kept to a minimum of 5% to promote drainage. Design features reducing long-term maintenance include SVE pretreatment and the cover components. The SVE system reduces potential for releases, as well as dries the soil and sediment, thus minimizing the long-term collection and treatment of leachate. The CAMU includes two low-permeability layers to minimize infiltration, thus reducing long-term leachate collection and treatment.	No

TABLE 1
Evaluation of ARARs
Slag Processing Area Final Cover Basis of Design Report: Continental Steel Superfund Site

ARARs and TBCs	Design Components Addressing Requirement	Waivers Needed?
Treatment to achieve a concentration that is the greater of 90% reduction or ten times the UTS for principal hazardous constituent concentrations. Principal hazardous constituents are those that pose a potential direct risk from ingestion or inhalation at the site at or above: 10^{-3} excess lifetime cancer risk, or an order of magnitude or greater over their reference dose for noncarcinogens, or that have a potential for migration to groundwater.	Treatment to achieve a concentration that is the greater of 90% reduction or ten times the UTS for each of the principal hazardous constituents will be specified for the SVE system.	No
The CAMU must be closed with a cap designed to: (1) provide long-term minimization of migration of liquids through the closed unit, (2) function with minimum maintenance, (3) promote drainage and minimize erosion or abrasion of the cover, (4) accommodate settling and subsidence so that the cover's integrity is maintained, and (5) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoil present.	The stabilized sludges, soils, and sediments will be covered with two low-permeability layers. This cover will minimize migration of liquids. The cover will promote drainage and function with minimum maintenance by providing top (minimum 5%) and side slopes (maximum 33%) to promote drainage and minimize erosion. Erosion protection surfaces will be provided along the CAMU side slopes potentially affected by the river during high river stage or during flooding. Minimal settling and subsidence is expected because of the low organic content of the waste. However, the 5% top slopes will accommodate settling and subsidence if they occur. The cover will have a permeability equal to the bottom liner in that both are designed with two similar low-permeability layers.	No
Identification and Listing of Hazardous Waste 40 CFR Part 261 Defines those solid wastes which are subject to regulation as hazardous wastes under 40 CFR Parts 262-265 and Parts 270, 271, 124.	The sediments do not have to be managed as containing listed waste because specific documentation of the release of a listed waste to the sediments is not available. Portions of the sediments may be characteristic hazardous waste. The sediments will be disposed in the CAMU, thus meeting ARARs for both solid and hazardous waste.	No
Standards Applicable to Generators of Hazardous Waste 40 CFR Part 262 Establishes standards for generators of hazardous waste.	Excavated sediments to be disposed in the CAMU are not considered to be "generated". Therefore these standards are not ARARs.	No

TABLE 1
Evaluation of ARARs
Slag Processing Area Final Cover Basis of Design Report: Continental Steel Superfund Site

ARARs and TBCs	Design Components Addressing Requirement	Waivers Needed?
Toxic Substances Control Act (TSCA) (40CFR 761.65) Storage for Disposal Bulk PCB remediation waste containing > 50 mg/kg PCBs may be stored onsite for up to 180 days provided controls are in place for prevention of dispersal by wind or generation of leachate. Storage site requirements include a foundation below the liner, a liner, a cover and a run-on control system.	No PCB concentrations > 50 mg/kg were detected.	No
Clean Air Act 40 CFR 50-99 Specifies requirements for air emissions such as particulates, sulfur dioxide, VOCs, hazardous air pollutants and asbestos.	Best available practices to control particulates will be used as needed.	No
Fish and Wildlife Coordination Act 16 USC 661 *et seq.;* 40 CFR 6.304 Requires protection of fish and wildlife from adverse effects of site action.	Impacts on fish and wildlife will be minimized during dredging through reasonable methods of control.	No
Endangered Species Act 16 USC Sec. 1531-1543; 40 CFR 6-302(h), 50 CFR Part 200, 50 CFR Part 402 Requires that Federal agencies insure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify critical habitat.	No endangered species known to be present that would be affected by sediment excavation activities.	No

Figures